



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,438	11/03/2003	Keisuke Kii	Q78133	2685
65565	7590	03/07/2008	EXAMINER	
SUGHRUE-265550			CHANG, VICTOR S	
2100 PENNSYLVANIA AVE. NW			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20037-3213			1794	
		MAIL DATE		DELIVERY MODE
		03/07/2008		PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/698,438	KII ET AL.	
	Examiner	Art Unit	
	Victor S. Chang	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 14 February 2008.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 3,5 and 9-13 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,2,4 and 6-8 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Introduction

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/14/2008 has been entered.
2. Claim 1 has been amended. Claims 1, 2, 4 and 6-8 are active.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. In response to the amendment, the grounds of rejection have been updated as set forth below.

Rejections Based on Prior Art

5. Claims 1, 2, 4, 6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 10-183085 [translation in IDS filed 8/30/2005].

JP '085 relates to a heat resistant adhesive adhered on a foam (porous) substrate [abstract; 0001]. The adhesive is a polymer comprising monomers including carboxyl group containing acrylic acid, etc. [0017]. The adhesive is crosslinkable with polyfunctional isocyanate crosslinking agent [0010-0011 and 0029]. The amount of crosslinking agent is in the range of 0.01-0.5 wt% to avoid gel fraction exceeding 50% [0030]. The glass transition temperature of

the acrylic acid containing adhesive includes –30°C [0014]. Useful porous substrates include polymer foams and nonwoven (known for use as battery separators) [0052].

For claims 1, 2, 4 6 and 8, the term “partially crosslinked” is interpreted as a polymeric material in which not all the crosslinkable functional groups have been reacted with crosslinking agent. JP ‘085 anticipates the term “partially crosslinked” in claim 1, because the amount of crosslinking agent is range of 0.01-0.5 wt% to avoid gel fraction exceeding 50%, i.e., less than fully gelled or fully crosslinked by crosslinking agent. Further, it should be noted that the contemplated end use of the material has not been given patentable weight, because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951). Finally, regarding newly amended transitional term “consisting essentially of”, absence of a clear indication of basic and novel characteristics, the transitional term “consisting essentially of” is construed as equivalent to “comprising.” If applicant contends that additional steps or materials in the prior art are excluded by the recitation of “consisting essentially of,” applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant’s invention. See MPEP § 2111.03. JP ‘085 discloses all the claimed features.

6. Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-183085 [translation in IDS filed 8/30/2005].

The teachings of JP ‘085 are again relied upon as set forth above.

For claim 7, JP '085 is silent about the supporting ratio (surface coverage ratio) of the adhesive over the substrate. However, the examiner takes Official notice that reduced adhesive surface coverage is common and well known, motivated by the desire to adjust the amount of adhesiveness and/or a reduced cost. It would have been obvious to one of ordinary skill in the art of adhesive to modify the invention of JP '085 accordingly.

Response to Argument

7. Applicants argue at Remarks page 6 that

"Paragraphs [0026] and [0027] of JP '085 disclose the use of a binder, which is a tackifier. The tackifier is generally an amorphous oligomer having a molecular weight of from several hundred to several thousand and a thermoplastic elastomer, which is in solid or liquid state at room temperature. The tackifier is often mixed with a high molecule polymer for the purpose of imparting pressure-sensitive adhesiveness, improving adhesiveness, and lowering viscosity.

However, in a case where a tackifier is used in a battery cell as a separator, since a polar solvent is used as an electrolyte, a side reaction occurs due to the tackifier, which is a low molecular component. Thus, a binder is not used in the present invention and is excluded from claim 1."

However, a tackifier is not a binder, a binder is an adhesive material, and a tackifier is a modifier added to binder for improved adhesiveness. Further, since applicants fail to provide any evidentiary support that a tackifier is necessarily detrimental in a battery, nor the claim language limits the claimed article to battery separator, the argument appears to analyze the prior art in vacuum, and also fail to exclude non-battery separator applications.

- Applicants argue at page 7 that

"It is submitted that the disclosure cited by the Examiner on page 12 of the specification corresponds to the formation of the partially crosslinked adhesive (i.e., in Example 1 of the present invention, the adhesive is partially crosslinked by being placed in a thermostat at 50°C for 7 days) and not to the complete crosslinking step (i.e., in Example 1, the partially crosslinked adhesive is then placed in a thermostat at a temperature of 50°C for

an additional 7 days to complete the crosslinking). Thus, the lack of the teaching of the second step in JP '085 shows that the adhesive of JP '085 is not partially crosslinked since the second step in Example 1 does not merely complete the step of partial crosslinking."

However, despite the various stages of crosslinking reaction, since the plain interpretation of the term "partially crosslinked" means that not all the functional groups have been reacted with crosslinking agent, JP '085 anticipates the claimed invention.

Applicants argue at page 8 that

"With respect to the function of a battery, Applicants stated that it is preferable that the supporting ratio of an adhesive is lower, but rather the contrary is preferable when adhesion to a battery is considered. Thus, the Examiner's statement is overbroad and generalized, and not consistent with Applicants' comments set forth in the Response dated December 17, 2007. Moreover, the Examiner asserts that reducing adhesive surface coverage is common and well known while Applicants do not agree that it is common or well known to reduce adhesive surface coverage when adhesion to a battery is considered."

However, applicants are reminded that the claim language is not limited to "a battery separator". Since the use limitation has not been given patentable weight, applicants' argument has been misplaced.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S. Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 7:00 am - 5:00 pm, Tuesday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor S Chang/
Primary Examiner, Art Unit 1794